82. (NEW) A liquid toner according to claim 71 wherein the particles have a median particle size of between 8.2 and 18.6 microns.

REMARKS

The application now contains claims 54-58, 61-63, 65-67, 69-71, 73-75 and 77-82. Claims 59, 60, 64, 68, 72 and 76 are cancelled, and claims 77-82 are added herewith.

In the above referenced office action, the Examiner rejected claims 54-58, 61-63, 65-67, 69-71 and 73-75 under 35 U.S.C. §103(a) as being unpatentable over Fitzgerald in view of Kydd et al., Japanese Patent 4183804A and Tsubuko, et al.

Applicants respectfully traverse the rejection and submit that the references cited do not provide a *prima facie* case of obviousness.

A. The Fitzgerald Reference

Fitzgerald teaches a method of producing powder for spray coating of metal surfaces. After the surface is coated, the coated surface is baked for two periods totaling 45 minutes at 175°C. Applicants note the following characteristics of the material described in this reference:

1) The particle size, while unspecified, appears to be in the order of 50 microns.

2) The coating thickness is between 0.5 and 6 mils, preferably, between 2-3 mils, applied in several passes. One mil is equivalent to 25 microns. In view of the size of the particles, its being applied in several passes and requirements for coverage of the entire surface, it does not appear feasible to produce a thickness of less than 100-150 microns.

3) Two embodiments of flakes are described. In one of these, described at col. 14, lines 13-21, aluminum flakes are added, without any coating to a powder, which does not contain any flakes. The resultant mix is spray coated on a surface. This embodiment does not appear to be relevant to the present claims. The second embodiment described at col. 14, lines 22-26. In this embodiment, the flakes appear to be dispersed in the polymer. The only metal described is aluminum.

4) There is no teaching of the formation of images by any means and certainly not by electrostatic means.

Fitzgerald teaches a spray material that is not suitable for (and therefore not adapted for) electrostatic formation of images, for a number of reasons.

First, the particles are not charged in a manner that would allow for electrostatic imaging. During spraying, electrostatic spraying is used at 20,000 to 50,000 volts. However, the charging

of particles for imaging is completely different and not taught (if at all possible) with the Fitzgerald powder.

Second, Fitzgerald's powder is very large. While the powder is sifted through a mesh, the mesh sizes indicate a powder size of 50-74 microns. In general, powder toner electrostatic imaging systems utilize toner particles of 7-15 microns, since large particles give poor resolution and thick deposition that is not suitable for imaging. Liquid toner generally utilizes much smaller toner particle sizes and provides much thinner images.

B. The Kydd et al. Reference

The Examiner refers to Col. 5, lines 10-20 of Kidd et al. as teaching the invention. In fact, Kidd teachs away from the invention. The only use of metal flake is in an embodiment in which a *single flake* is coated with a coating material. The coating is not a polymer.

Thus, Kidd is based on the understanding that one cannot disperse metal flakes in toner particles suitable for electrostatic imaging and that one cannot coat even single flakes with a polymer and still provide separate particles suitable for electrostatic imaging. Thus Kidd, et al. teaches coating single metal flakes with and organic material, drying the coated flakes and utilizing the coated single flakes in an electrostatic process.

C. Japanese Patent 4183804A

The Examiner indicates that one of the elements of the rejection is the above referenced JP patent or publication *which was recited in the action No. 20.*

Applicants have carefully reviewed action No. 20 and the only two Japanese references are cited are 62/100771 and 01/112254. However, the abstract of the cited reference was provided as part of a IDS by applicants.

This reference appears to show a process by which a powder is covered by metal flake which is adhered. There is no teaching of the preparation of toner particles in which flakes are dispersed in a polymer, as required by claim 54. The metal flake is on the outside of the particle.

D. The Tsubuko, et al. Reference

In respect to the relevance of this reference, the Examiner refers to a recitation of the reference in paper 20. However, this reference is not mentioned in paper 20. However, it is referred to paper 16 as teaching the use of ionomers as binders for developers. Tsubuko, teaches production of a toner particle having a size of 1-5 microns, suitable for liquid toner, and the production of liquid toner from the particles.

Claim 54 is not *prima facie* obvious

Claim 54 requires that metal flakes be dispersed in a polymer binder. Except arguably the Fitzgerald reference, none of the other references teach the use of *metal* flakes dispersed in a polymer binder. Kydd does not teach any particles having more than a single flake and the single flake itself does not have a *polymer* coating. The Japanese teaches a powder coated with metal flake. Tsubuko is basically irrelevant to claim 54, for the reasons given above. However, Tsubuko does appear to describe a polymer based toner particle.

Furthermore, the Fitzgerald reference does not teach a "toner particle adapted for use in electrostatic image formation" as required by claim 54.

Furthermore, there is no motivation given for combining the teaching of Fitzgerald with Tsubuko, the only reference to which it could even remotely be considered in combination. The Japanese and Kydd references are so different from Fitzgerald that it is difficult to understand how they could be combined.

However, the combination of Fitzgeral and Kydd is just not *prima facie* obvious. In fact quite the contrary is true, since if smaller particles, suitable for electrostatic imaging as described by Kydd and containing flakes were indeed desired, there is no teaching as to how to produce them without destroying the flakes. Further grinding would, as has been described in the disclosure and in previous responses, could be expected to have this effect.

Applicants submit that the prior art over many years tried to find a way to simulate a metallic finish using a toner in electrostatic imaging. The art cited in the present office action (and that previously cited) shows various ways of producing a metallic effect. The use of a metal flake for coating a surface was described in art previously cited and is shown in Fitzgerald for non-imaging applications. For *imaging*, flakes were not dispersed in a polymer. Powders, which were known to give inferior gloss, were used, since they could be easily dispersed in a polymer to form toner particles. Substitute pigmenting materials were used, since these had the sturdiness to last in the production process.

Applicants further submit that the combinations suggested by the Examiner do not meet the requirements of *prima facie* obviousness for one or more of the following reasons:

1) The combination, if made, does not produce the claimed invention, namely a polymer toner particle suitable for electrostatic imaging and having flakes of metal dispersed therein.
2) There is no motivation to combine the references, since the result would not give one or more features of the references used in the combinations.

3) The references are not combinable. Namely, the Fitzgerald reference describes a particle in which flakes are dispersed having characteristics that could not be used to produce the toner particles of the other references, and produce the invention.

There are further reasons why at least some of the dependent claims are not *prima facie* obvious.

Claims 55 and 56 define flakes having a specified size. None of the prior art indicates what size flakes are used.

Claims 57 and 58 define the use of gold and silver flake. Applicants submit that the only relevant flakes in a polymer are the aluminum flakes of Fitzgerald. Aluminum is a sturdy metal as compared to gold and silver. Thus, even if it were obvious to produce metal toners for electrostatic imaging utilizing aluminum, applicants submit that it would not be obvious to do so utilizing gold or silver.

Claims 69-71 define a liquid toner comprising toner particles and a carrier liquid. Claims 73-75 define an image printed with this toner. As indicated above, the size of particles used in liquid toner are even smaller than those used in the powder toner. Applicants submit that there would be even less expectation of success in producing liquid toner utilizing the methods of Fitzgerald than for powder toner.

New claims 77-82 are added to specifically claim the toner particle size range of the examples.

In addition, applicants respectfully point out that a Supplementary Information Disclosure Statement filed on August 13, 2001, included a 2-page PTO-1449 form. In an Office Action dated September 21, 2001, the Examiner returned the first page partially initialed while the second page was never returned to us initialed by the Examiner. Applicants are resubmitting the 2-page form and respectfully request that all the items listed thereon be initialed by the Examiner to ensure that they appear on the face of the patent issuing on the present application. Applicants assume that the art has already been considered by the Examiner in accordance with MPEP 609.

Applicants submit that the present claims are patentable over the cited art. Notice to this effect is respectfully awaited. If the Examiner has any questions, he is respectfully requested to call the undersigned at 1 (877) 428-5468. Please note that this is a direct *toll free* number in the US that is answered in the undersigned's Israel office. Israel is 7 hours ahead of Washington.

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In the event that the Examiner continues his rejections under the art cited, he is respectfully requested to provide reasoning as to motivation for combining and how, technically, based on the references a combination is possible and obvious in order to produce the claimed invention.

Respectfully submitted,
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